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ABSTRACT

Research studies on classroom questions and on learning models can provide information on how art criticism can be integrated into art education so that students are involved in exploratory experiences that tap higher levels of thinking. First, teachers need to be trained specifically in art criticism questioning formats in which there is an emphasis on complex levels of thinking. To be effective, this training requires that teachers model and practice questioning techniques as well as code their own questions. Some structure for the categorization of questions and for the development of higher level questions is necessary. Art teachers also need training in the formal qualities of question construction. For example, teachers need to allow for ample pause time, to ask probing and elaborative questions, to involve all students, and to avoid rhetorical questions. Since small group discussions have been correlated with higher cognitive questions, art teachers need to examine the quality of the many one-to-one interactions that normally occur in art classes. (RM)

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The Application of Questioning Strategy Research to Art Criticism Instruction

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Abstract

Increasingly, art educators are proposing that art criticism be part of art education instruction. A review of selected research on classroom questions, learning models, and art criticism formats reveals significant congruences in these three areas in terms of goals, structures, and instructional methodologies. These similarities provide the research rationale for the implementation of an art criticism questioning strategy format. Namely, it is proposed that art criticism instruction provide questions that are focused toward complex levels of thinking involving analysis and evaluation. To support this sequential-dialogue model for art criticism and to present suggestions for implementation, this paper presents specific findings on sequential learning, teacher training in questioning strategies, and modes of question construction that have been correlated with student involvement, problem solving, and the development of critical thinking skills.

The Application of Questioning Strategy Research to Art Criticism Instruction

For centuries, perhaps even predating Socrates, questions have played a crucial role in teaching environments. The asking of questions is one of the ten major behaviors included in Flanders' (1970) inventory of classroom phenomena, with various studies suggesting that instructional questions comprise as much as 80% of the classtime (Riegle, 1976). The research value of focusing on classroom questions is that they are the basic unit underlying most methods of instruction. Moreover, when properly constructed and sequenced, verbal questions posed by the teacher have been related to student motivation, discovery learning, independent thinking, and problem solving. For the learning of factual information, there appears to be little difference as to whether a teacher conducts a lecture or engages in a dialogue with students. For problem solving and critical thinking, however, achievement has been found to correlate with teacher-student discussions (Krathwohl, Bloom, & Masia, 1964). Eisner (1965) notes the crucial relationships between questions and thought and between thought and action:

> If it is axiomatic that all great quests commence with a question (note Harvey's wondering why blood circulates, Newton's sense of bewilderment at an apple's plunging to earth, and Freud's query, Do

> people really forget?), then it is important that the desire to raise seminal questions be fostered by the school. (p. 628)

The purpose of this paper is to review selected research findings on questioning strategies and models of instruction as these might relate and apply to art criticism instruction. Increasingly, art educators are proposing that, in addition to studio production, art instruction include experiences in the critical analysis and evaluation of art. In practice, however, artistic insights are still primarily confined to the art production process, and the "discussions of works have usually proved unfocused, brief and idiosyncratic rather than comprehensive in the features highlighted" (Perkins, 1977, p. 301). In this paper, it will be proposed that questioning strategy and related research reveals findings crucial to the implementation of art criticism instruction.

Research Methodology

The research methodology for this paper has consisted of reviewing studies on classroom questions in order to ascertain areas of similarity and hence application between questioning strategies and art criticism. In addition to manual searches of general education and art education literature, the ERIC data base was computer searched. Questioning strategies, instructional methodologies, art criticism, taxonomy, Bloom's taxonomy,

inventory, and their semantic variations, constituted the major descriptors for several interrelated computer searches.

The information on these topics was grouped into the three following general areas: (1) descriptive studies of classroom questions; (2) the structure and use of various educational models, such as teaching behavior inventories, question-answer observational inventories, and taxonomies of learning behaviors; and (3) the characteristics of art criticism formats and suggested methodologies for art criticism instruction. Through the research methodology of conceptual analysis and evaluation, the findings in each of these areas were reviewed for possible similarities and instructional applications. The remainder of this paper will consist of a research review and discussion that correlates information on questioning strategy research, educational models, and art criticism instruction. It will be posited that research data and proposals in these three seemingly diverse areas reveal significant conceptual overlap and characteristic similarities as well as a concern for similar educational goals and objectives.

Descriptive Data on Classroom Questions

A wealth of data indicates that the type of questions posed in a classroom and the responses given not only dictate what is being taught and subsequently learned, but that there is an equivalency between the two. Moore (1973) finds that comments made by art students are influenced by the types of questions

they are asked. Simply put, research "indicates that asking questions at levels above memory is an effective method for getting students to operate at cognitive levels above memory" (Atwood & Stevens, 1976, p. 253). Moreover, a questioning dialogue between teacher and students has been correlated with student participation and motivation inasmuch as students become actively involved in the construction of meaningful content and outcomes. The posing of higher cognitive level questions allows students to discover information and formulate meaning rather than being solely dependent upon predefined knowledge. Through the exploratory nature of a questioning dialogue, students can develop skills in critical thinking and problem solving (Armstrong & Armstrong, 1977; Arnold, Atwood, & Rogers, 1973; Atwood & Stevens, 1976; Lucking, 1975; Sisk, 1976b).

Although virtually every set of educational guidelines includes the goals of critical thinking and student involvement, the majority of classroom questions are focused on the less complex cognitive processes of memory-recall and comprehension, such as paraphrasing previously learned information. A discrepancy, or perhaps unfortunate irony, quickly becomes apparent in comparing educators' stated goals for effective classroom instruction to descriptive data on the actual realities of classroom instruction (Newton, 1978).

Nearly a century of research thoroughly documents both the

high frequency of questions in the classroom and the almost total lack of questions posed that require critical and evaluative thinking. In 1893, Rice recorded a heavy reliance upon recitation, and in the often-cited 1912 study conducted by Stevens, in which questions were recorded in 100 high school classrooms, it was found that teachers asked a mean of 395 questions per day, with two-thirds of those questions requiring factual recall (Gall, 1970; Morse & Davis, 1970). Subsequent studies of questions in the classroom reveal essentially the same set of grim statistics as to the high frequency of questions and the high percentage of knowledge questions and rote responses. These statistics have been recorded at all grade levels and in all subject areas--including art (Beittel & Clements, 1964; Davis & Tinsey, 1967; Gallagher, 1965). It is not the purpose of this paper to delineate and analyze each study and to evaluate its methodology. Rather, data from a variety of studies are reported to indicate trends and patterns.

Researchers conducting independent studies with widely differing approaches, as well as those who have replicated studies, have consistently tabulated an excess of lower level cognitive questions. In 1936, Haynes found 77% of the questions in a sixth grade history class to require memory-recall responses (Lucking, 1975). Corey (1940) found 71% of the questions to be factual in a high school science class. In a study of questions

posed by student teachers in elementary science and social studies classes, Arnold et al. (1973) recorded 61% memory level questions with most of the remaining 39% asking for comprehension responses. When this study was replicated on the secondary level with student teachers in science, 70% were memory level questions, with the remaining 30% being comprehension and application questions (Atwood & Stevens, 1976). As in the first study, those levels of questioning usually designated as involving more complex cognitive processes, such as analysis and evaluation, were found to be absent. Both Gall (1970) and Blosser (1975) conclude that perhaps 60% of all classroom questions require memory-recall responses, 20% are procedural, and an optimistic 20% actually require students to employ critical and analytical thinking processes. From studies of art dialogues, Beittel and Clements (1964) concluded that

> Although the wide range of frequencies and other variables makes generalization suspect, it seems probable that the frequency of art class questioning is somewhat similar to the frequency of questioning in many other subjects. However, considering that 2/3 of the questioning occurred during the working period when the teacher usually speaks individually to pupils, the class as a whole is asked fewer questions than in other subjects. (pp. 10-11)

Consistent with the lack of questions requiring higher level thinking processes, it has been found that teachers often pose questions at a rapid rate, rarely waiting for or requiring thoughtful or extensive replies. Various studies reveal that the average pause time between a question and a response and between a response and another question is approximately 1 second each (Atwood & Stevens, 1976). This rapid succession of questions requiring short, memory-based responses that can be clearly declared as correct or incorrect is such a recognizable classroom phenomenon that it has been labelled as the "bombing rate" by Sadker and Sadker (1977, pp. 185-186).

The supposition that teachers often use questions for managerial functions and behavioral control is strongly indicated by the finding that numbers of questions increase in those classrooms in which there is a high percentage of students of low intellectual abilities. Hoetker found that a mean of 5.17 questions per minute was accelerated to 10.7 per minute for classes populated by students with various types of learning difficulties (Lucking, 1975).

Numerous other studies on questioning strategies, in addition to those cited above, merely further substantiate the findings of Stevens' 1912 study. Researchers such as Arnold et al. (1973) note that while the topics studied in most classrooms should lend themselves to the development of higher level inquiry learning,

this goal is not achieved through the current manner in which questions are currently used. The problem is not that teachers do not ask enough questions, but rather that they ask too many questions of the wrong kind. The solution to what appears to be an untenable situation is not that teachers should eliminate the asking of questions (Farley & Clegg, 1969). Rather, the quality of classroom questions must improve. Despite the current dismal realities of classroom questioning methodologies, many researchers still agree that teacher-student dialogues remain the most viable instructional vehicle for critical and analytical learning.

Prescriptive Data on Questioning Strategies

From an extensive review of studies, Gall (1970) was prompted to declare that there is more than enough descriptive data on teachers' classroom questions and on what should not be done. What is needed are more prescriptive studies and analyses of previous studies for clues as to how to implement effective questioning strategies. For this paper, studies were reviewed for suggestions on how questions can be properly phrased and presented.

Student achievement has been found to be correlated positively with a systematic approach to the subject matter, wherein questions are included that deal with memory-based as well as complex thinking processes (Lucking, 1975). For example, Bloom's taxonomy provides categories of learning that allow for the development of

higher, more complex levels of thinking by having instruction proceed through the cognitive levels of knowledge, comprehension, application, analysis, synthesis, and evaluation (Bloom, Engelhart, Furst, Hill, & Krathwohl, 1956). Gagné's (1965) developmental learning model provides the categories of memory, convergent thinking, divergent thinking, and evaluation. Although Bloom's taxonomy or other models of learning provide a convenient format for sequencing questions, their application and value needs to be qualified. A taxonomy provides a general structure for instruction and a focus toward the development of questions beyond memory-recall rather than possessing any inherent relationship to the structure of thinking processes, per se. It also should be noted that students need to be asked probing and elaborative questions that develop their initial responses and that go well beyond any strict sequencing of questions in taxonomic categories (Gall, 1970; Hamblen, in press).

The instructional value of higher level questions, let alone the conscious structuring of those questions, is often not apparent in classroom practice unless teachers have received questioning strategy training. Such training must be specifically geared toward the goals of developing analytical and evaluative skills. In separate studies, it has been found that teachers who have received training in an instructional model, such as Bloom's taxonomy, and in the formal construction of higher level

questions, ask significantly more higher inquiry level questions. Trained teachers were found to be less dependent on lecture methodologies, they received higher level responses to their questions, and they were less judgmental of student responses. Without training in the formal characteristics of question construction, teachers interrupted students, repeated their own questions, answered their own questions, used leading questions, repeated students' answers, and failed to allow adequate pause time (Farley & Clegg, 1969; Nasca & Davis, 1982; Newton, 1978).

The student teachers in the previously mentioned study by Atwood and Stevens (1976) were familiar with Bloom's taxonomy and had been instructed in the benefits of asking high level questions. Yet, 70% of their questions required memory-recall responses. Teacher training in questioning strategies needs to be specific with practice sessions that allow for peer feedback and self-evaluation. It appears that nonevaluated training, let alone mere familiarity with instructional models and the characteristics of well-constructed questions, does not result in adequate implementation (Armstrong & Armstrong, 1977; Atwood & Stevens, 1976; Morse & Davis, 1970).

Gall (1970) suggests that question classifications and strategies be devised for specific classrooms and contexts, with training also specific to a given subject area. Again, it would appear that positive attitudes toward the goals of

critical and evaluative thinking or even a general familiarity with questioning strategies is not adequate if higher level questions are to be a consistent and beneficial part of instruction.

Further prescriptive data on questioning strategies suggest that most high level cognitive questions are asked, not in one-to-one situations, but in small group interactions (Nasca & Davis, 1982; Sisk, 1976b). The use of primary materials, such as actual objects or places and persons that allow for direct experiences, also tends to prompt more high level questions (Gall, 1970). In contrast, secondary instructional materials, such as textbooks, are more conducive to the asking of memory-recall questions. Finally, researchers have found that two-thirds of the questions in a classroom are asked by the teacher, with the remaining one-third, often procedural in nature, asked by students (The Art of Questioning, 1967). The quality of instruction in a classroom is indicated not only by the types of answers given by students, but also by the types of questions students ask. The fact that this is a neglected area of study may be due to the scarcity of available, observable behaviors, i.e., students ask, on the average, one instructionally related question per month (Sadker & Sadker, 1977).

The descriptive data on questions in the classroom provide some fairly clear clues as to how higher level questions can be

implemented. To summarize, teachers need training in a questioning strategy that is specific to their subject area, some type of sequential format may be necessary to focus attention on higher level questions, probing and elaborative questions that go beyond those in taxonomic categorizations need to be asked, adequate pause time before and after questions must be allowed, primary materials can be used to foster student involvement, and students should be encouraged to ask questions that are relevant to the material being studied.

Questioning Inventories and Learning Taxonomies

The essential key toward an effective questioning methodology is the use of higher cognitive level questions. Simply put, if such questions are not asked, all other questioning strategy suggestions for improving the learning environment are of little consequence. Moreover, the asking of higher level questions is inextricably related to the development of a method or procedure that incorporates critical and analytical thinking.

Davis, Morse, Rogers, and Tinsley (1969) date educators' concerted interest in questioning strategies to the 1950s and 1960s when there was an emphasis on inquiry methods of instruction and discovery learning. Not surprisingly, one can also date the development of many questioning inventories and models of learning to these same decades. In 1970, Gall found eleven major systems for classifying teachers' questions; in 1976, Riegle found

twenty-one invertory systems that were either subject specific or had cross-subject application.

Most questioning inventories allot equal value to all types of questions and do not prescribe an instructional methodology. They are essentially descriptive tools used for the classification of questions that teachers do ask rather than necessarily those questions teachers should ask. For example, in the Question Category System for Science (QCSS), Blosser (1975) categorizes questions as being closed (convergent), open (divergent), managerial, or rhetorical. Some inventories, however, may provide categories for the development of instructional questions. From Parson's inventory categories of rhetorical, information, leading, synthesizing, and other, Armstrong and Armstrong (1977) selected and developed the information category for descriptive questions, the leading category for questions that develop sorting abilities, and the synthesizing category for analytical and generalization responses. Likewise, Sisk (1976a) bases a question model on the four interrogative question modes of Stahl and Casteel: empirical, relational, valuing, and feeling. In other words, some inventories can be used to tabulate and analyze classroom questions as well as serve as a framework to formulate sequential questioning instruction.

Question inventories attempt to account for the variety of questions that occur in a classroom. Models of learning behaviors

are less descriptive of the types of questions that actually occur in the classroom, however, they are more easily adapted to instructional strategies. As proposed descriptions of the processes and manner in which learning occurs, models of learning provide both categories for question development as well as a recommended sequence for instruction.

In Guilford's Structure of the Intellect (SOI) model, the operations dimension includes cognition, memory, convergent production, divergent production, and evaluation (Sorensen & Addison, 1977). Gagné's (1965) stages of learning involve the identification of attributes (discrimination), the relationship of attributes (conceptualization), and the combining of attributes (formulation of a higher order). In a similar manner, Bloom's taxonomy suggests that learning proceeds in a more or less hierarchical manner that starts with factual knowledge and proceeds through comprehension, application, analysis, synthesis, and evaluation (Bloom et al., 1956).

Many taxonomies of learning behaviors may be faulted for a rigidity of structure, for the fallacious assumption that learning occurs in a linear fashion, and for separating learning into categories. The value of such models, however, lies in their emphasis on the development of complex thinking skills. Their authors have consistently encouraged teachers to focus attention on levels of complex thinking and on the active involvement of

students. Models of learning, despite their very real limitations, have allowed educators to organize instruction in a manner that fosters the development of critical thinking skills (Farley & Clegg, 1969; Lucking, 1975; Zevin, 1976).

Essentially, models of learning deal with thinking processes and what should be taught, not with teaching methodologies, per se. It was not until the 1960s that taxonomies, such as Bloom's, began to serve as formats for instructional questions. Sanders (1966) and others, such as Clegg, Manson, Ochoa, Nichols, and Williams (1968) and Sadker and Sadker (1977), showed how questions, conforming to the sequence and thinking processes outlined in a taxonomy, could develop the educational goals of student involvement, discovery learning, and critical thinking skills.

Two related issues become apparent in implementing art criticism instruction: (1) the goals of achieving analytical and evaluative skills in art, and (2) the means to achieve those goals. In this paper it is proposed that questions asked within the categories of a learning taxonomy represent a synthesis of the goals of critical and evaluative thinking and the means to achieve those goals, i.e., a questioning strategy within a structured format provides the methodology for achieving art critical skills.

Applications to Art Criticism

Sanders (1966) broadly defines questions as problems or

projects that call forth student responses. In a highly similar vein, Feldman (1981) describes art criticism as a performance, and Smith (1973) describes it as an exploratory process. This author believes that a variety of auspicious congruences occur among the findings, structures, and goals of learning models, questioning strategy research, and art criticism instruction.

The efficacy of both sequential instruction and teacher-student dialogues is well-recognized and has been extensively discussed in art education literature. Art educators often suggest that art critical analysis and evaluation should involve teacher-student dialogues that will actively engage students in the critical process. The literature is also replete with instructional formats in which art criticism is to proceed from phenomenological descriptions to critical evaluations. For example, most art criticism formats allow for some type of description, analysis, and interpretation, with the critical act terminated by an evaluation or judgment (Chapman, 1978; Feldman, 1981; Johansen, 1982; Mittler, 1982). In other words, the art criticism format requires ever-increasing complex levels of thinking that closely parallel the categories of many learning models.

In general education it is found that if a teacher's questions do not follow some sequence, student responses decline in frequency and length and in complexity of thought (Zevin, 1976). For art

criticism, Clements (1979) likewise emphasizes the necessity to move toward levels beyond mere description. "The task for art criticism methodology will be to focus not on the common and mundane, but on the more highly developed abilities required" (p. 70). The art criticism format itself represents a recognition of the need for some form of structured instruction that leads the student toward higher cognitive levels.

Many art educators strongly advocate an art criticism dialogue between teacher and students. Art criticism has been described as an exploratory or problem-solving activity wherein there is an active involvement of the student in the construction of meaning and evaluation (Smith, 1973). Feldman (1973) suggests the use of the Socratic method for art criticism dialogues; Johansen (1982) advocates an interactive mode within the categories of impression (description), expression (interpretation), and commitment (evaluation). Art dialogue has a respectable history in art education, dating from the 1950s when it was believed that children's verbalizations improved their graphic symbolizations (Armstrong & Armstrong, 1977; Clements, 1964). This focus on conversations revolving around art production can be easily transferred and adapted to art criticism instruction involving the use of questions.

Summary and Conclusions

The review of classroom questions, learning models, and art

criticism instruction reveals significant congruences among goals, structures, and instructional methodologies. Classroom questions, when properly sequenced and constructed, have been correlated with discovery learning, student involvement, and the development of higher cognitive skills. Learning models describe thinking processes, emphasize the educational goal of developing complex levels of thinking, and provide a framework for sequential instruction. Art criticism provides a structure whereby students explore the meanings of a given art object through the processes of analysis and evaluation.

Although questioning strategies, learning models, and art criticism share a commonality of purpose and of method, they also share a less desirable characteristic. As noted in the review of research data, questioning strategies are not properly implemented in the classroom, higher cognitive levels are often absent in instruction, and art criticism remains essentially an art education proposal, rather than classroom practice. The goals of each of these three areas are recognized and instructional methods are discussed; however, specific prescriptions for implementation are often absent. Art criticism formats are broadly described in the literature, but, with few exceptions, no specific strategy is explicated (Hamblen, in press). Moreover, only rarely is art criticism linked with questioning strategies (Anderson & Anderson, 1977; Taunton, 1983). Art criticism formats

provide only the most broadly defined categories for question development. This author believes that the lack of specific guidelines and training has done much to curtail the implementation of art criticism instruction.

The research data on classroom questions and on learning models, in general, provide clues as to how a particular type of instruction, such as art criticism, can be implemented so that questions are used to motivate and involve students in exploratory experiences that tap higher levels of thinking. First, and foremost, teachers need to be trained specifically in art criticism questioning formats in which there is an emphasis on higher levels of thinking. Moreover, as Armstrong and Armstrong (1977) have noted, to be effective, this training requires that teachers model and practice questioning techniques as well as code their own questions. A mere familiarity with questioning strategies and sequential models of learning or even training in which questions are coded by someone else does not produce a high number of complex questions in later practice.

Despite the shortcomings of most learning models to account for the variability and range of thinking capabilities, some structure for the categorization of questions and for the development of higher level questions is necessary.

> Control. . . is easily lost in the intellectual excitement of spontaneous and freewheeling discussions

> in the art room. For the creative talk of children may diverge so widely that aesthetically irrelevant ideas, associations, and conclusions may result from inquiry that is undisciplined from within and without. (Ecker, 1973, p. 71)
>
> I'm sympathetic, therefore, with the metacritical efforts of Edmund Feldman, Ralph Smith, and others to lay out categories to guide teachers and their students in critical performance. (Ecker, 1973, p. 72)

In other words, it appears that a taxonomic awareness, if not strict adherence, is helpful. Reference to a learning model, such as that of Bloom, Guilford, or Gagné, provides the psychological rationale for maintaining a focus toward higher cognitive levels.

In addition to the actual cognitive content of questions, teachers need to be trained in the formal qualities of question construction. For example, teachers need to allow for ample pause time, to ask probing and elaborative questions, to involve all students, and to avoid rhetorical questions (Hamblen, 1984). Whenever possible, primary materials should be used. Unless an art historical approach is intended, art criticism instruction should not rely heavily on previously written commentary (Mittler, 1982). Since small group discussions have been correlated with higher cognitive

questions, art educators perhaps need to examine the many one-to-one interactions that normally occur in an art classroom. Nasca and Davis (1982) found that "teachers' interactions with individuals focused on the students' use of time, materials and resources rather than on thought processes" (p. 20).

To summarize, art criticism offers a propitious opportunity for the implementation of instruction that can guide aesthetic perceptions, allow for an exploration of artistic meanings, and develop analytical and evaluative skills. This author believes that research data on classroom questions and the literature on learning models provide information helpful toward achieving those art criticism goals.

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